ILEARN Blueprint
Grade 4 Science
(Beginning 2019–20 School Year)

Blueprints serve as a foundational resource in the assessment development process. Blueprints specify the proportionality of how ILEARN assesses the Indiana Academic Standards, including the relative range of each standard on the assessment as represented in the minimum and maximum number of items to be administered to each student.

The Department recruited Indiana educators to inform the development of the blueprint in February 2018. These educators represented different regions of the state, diverse student populations, as well as content and accessibility expertise. Panels of subject area teachers convened at each grade level recommended the priorities and associated item ranges noted within the blueprints. Educators also considered the vertical articulation of the content across grades 4, 6 and Biology. For Science, educators placed an emphasis on scientific practices involving investigating, reasoning, and communicating in grades 4 and 6, followed by the transition to the development and use of models and more analytical practices in Biology.

ILEARN Science assessments will be computer adaptive assessments, typically referred to as CAT. The blueprints specify the number of operational items students will be administered overall, as well as by reporting category and standard. The CAT item selection algorithm is designed to select items necessary to meet all test blueprint specifications, while also varying item difficulty to adapt to each student's individual ability.

Overview

The columns of the blueprints highlight key features of test design including: reporting categories, Indiana Academic Standards, standard allocations (number of minimum and maximum items per standard), reporting category allocations and the total operational items possible.

Reporting Category: A broad domain or segment of the subject area identified by educators as meaningful sets of interrelated standards. Reporting categories are broad to allow for individual level reporting of student performance. In many cases, the reporting category combines two or more domains that are considered related, as indicated by educators. The

	reporting category column also includes the overall percentage of the assessment characterized by the specific category.
Standard:	The Indiana Academic Standard category code is noted. The full language of the standard can be accessed at https://www.doe.in.gov/standards.
Standard Item Range:	The allocation defines the item range possible for that standard. For adaptive assessments, a standard with a range that starts at zero indicates that not every student will be assessed on the standard. However, the standard will be assessed at the aggregate level. For fixed form assessments, a standard with a range that starts at zero indicates that standard may not be assessed each year.
Standard Percentage of Test:	The allocation defines the percentage of the test for each standard and corresponding reporting category.
Total Number of Items Possible:	The range for the total number of items possible on the assessment each year. Note: Field test items do not contribute to the operational points possible noted.

Additional Information

Each student will also receive one Performance Task set as part of his or her test. A Performance Task is designed to provide students with an opportunity to demonstrate their ability to apply their knowledge and higher-order thinking skills to explore and analyze a complex, real-world scientific phenomenon. This Performance Task set will contain several items aligned to the Indiana Academic Standards. For Science, these Performance Tasks align to science and engineering process and content standards.

Further, each student will respond to two hand-scored items throughout the assessment. Indiana educators across the state are invited to participate in the scoring of these items.

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Reporting Category	Standard	Standard Item Range		Standard % of Test		Reporting Category Item Range
		Min	Max	Min	Max	
Questioning and Modeling (25–29%)	3-5.CD.1 [CS]	0	1	0	2	12–14
	3-5.CD.4 [CS]	0	2	0	4	
	3-5.DI.1 [CS]	0	2	0	4	
	3-5.DI.2 [CS]	0	1	0	2	
	3-5.E.1	1	3	2	6	
	3-5.IC.1 [CS]	1	3	2	6	
	3-5.NC.2 [CS]	0	1	0	2	
	3-5.PA.1 [CS]	0	2	0	4	
	4.ESS.1	1	3	2	6	
	4.PS.1	1	3	2	6	
	SEPS.1	1	3	2	6	
	SEPS.2	1	3	2	6	
Investigating (25–29%)	3-5.DI.3 [CS]	0	2	0	4	12–14
	3-5.E.3	0	1	0	2	
	3-5.PA.2 [CS]	0	1	0	2	
	4.ESS.3	1	3	2	6	
	4.LS.1	1	3	2	6	
	4.PS.2	1	3	2	6	
	4.PS.3	1	3	2	6	
	SEPS.3	1	3	2	6	
Analyzing, Interpreting, and Computational Thinking (21–25%)	3-5.CD.3 [CS]	0	1	0	2	10–12
	3-5.DI.4 [CS]	1	3	2	6	
	3-5.E.2	1	3	2	6	
	3-5.IC.2 [CS]	1	3	2	6	
	3-5.PA.3 [CS]	0	2	0	4	
	4.ESS.2	1	3	2	6	
	4.LS.3	0	2	0	4	
	4.PS.5	0	2	0	4	
	SEPS.4	1	3	2	6	
	SEPS.5	1	3	2	6	

Explaining Solutions, Reasoning, and Communicating (21–25%)	3-5.CD.2 [CS]	0	2	0	4	10–12
	3-5.DI.5 [CS]	0	2	0	4	
	3-5.IC.3 [CS]	0	2	0	4	
	3-5.IC.4 [CS]	0	2	0	4	
	3-5.NC.1 [CS]	0	1	0	2	
	4.ESS.4	1	3	2	6	
	4.LS.2	0	2	0	4	
	4.PS.4	0	2	0	4	
	SEPS.6	1	3	2	6	
	SEPS.7	1	3	2	6	
	SEPS.8	1	3	2	6	
Total Operational Items: 47-49						

Note: [CS] indicates a Computer Science Standard.